# Structural analysis of the development of the Iranian tourism market employing a MICMAC approach

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# Structural Analysis of the Development of the Iranian Tourism Market Employing a MICMAC Approach: A New Long-Range Planning Method to Attract the ASEAN International Tourist Market


## Abstract

### Purpose

As tourism development is an unquestionable part of every national growth policy, this study aims to introduce an integrated method employing MICMAC analysis for understanding the key strategic variables of Iran's tourism development system.

### Design/methodology/approach

The structural analysis with MICMAC method was used to determine the classification of variables, aimed at structuring ideas to deal with complex decision-making and help planners and policy-makers formulate future-based strategies.

### Findings

The cross-impact matrix was used to identify the development variables having the greatest impact on the development of Southeast Asian tourism to Iran. The results showed that among 43 variables, 10 have great potential as key variables in the future of Iran's tourism development.

### Research limitations /implications

MICMAC, as a structural analysis technique, is regarded as being the most appropriate to identify the key variables in the development of the Iranian tourism system. The limitation was that the other tourism markets, apart from ASEAN tourists, and the tourism demand-side were excluded from this study.

### Practical implications

The present study indicates that identifying key factors that influence the supply side of Iran's tourism system is worthwhile. Consequently, the findings show how these key factors can play a vital role in long-range economic sustainability and lead to the development of Iran's tourism market to enhance globally its competitiveness as a destination to attract international ASEAN tourists.

### Originality/value

This study is one of the first paper to focus on the development of Iran's tourism market from a supply-side through structural analysis. Its findings are valuable as they can be used by the tourism authorities in the process of developing future tourism scenarios for Iran.



**Keywords:** Tourism future, tourism planning, tourism development, long-range planning, Iran tourism, MICMAC

## 1. Introduction

Growth of the tourism industry worldwide has increased the importance of tourism from an economic perspective, especially as a source of foreign exchange earnings in both developing and developed countries. According to the latest report by UNWTO (2019), tourism generates $1.5 trillion as the world's third-largest export category and Asia and the Pacific was the fastest-growing region in 2018 and among its sub-regions, South Asia grew the most, with 19% growth in tourists' arrivals and 10% growth in tourists' receipts with double-digit growth also in Iran (WTTC, 2019). The planning process based on logical planning, is vital for tourism development (Inskeep, 1991) and optimized planning of international tourist businesses to provide high-quality services to any group of tourists can be an influential element in a tourism system (Jandaghi et al., 2020). Iran, because of its ancient civilization, historical background and many natural and human-made tourist attractions, is no exception when it comes to this rule of planning, relying on its international tourism with integrated and comprehensive planning (Ghaderi & Henderson, 2012). In this respect, strategic planning can be considered a fundamental and effective means of advancing objectives of and creating a clear and realistic perspective for the future of tourism in Iran (Ruhanen, 2004). In 2016, oil accounted for 61.6% of Iran's GDP according to the Central Bank of Iran showing the reliance of Iran on oil and has led to a one-dimensional economy, which is detrimental to Iran's future (cited in Nematpour & Khodadadi, 2020) (see Table 1). The Iranian government should take a particular interest in tourism (Pazhuhan & Shiri, 2020) by investing in it and applying efficient strategic planning methods. From an economic aspect, tourism could provide an alternative source of income for communities, increase the GDP rate and stimulate the Iranian national economy.

**Table 1**. GDP by various economic sectors according to the Central Bank of Iran (CBI, 2016)

| Sector | 2014 | 2015 | 2016 |
|---|---|---|---|
| Agriculture | 5.4 | 4.6 | 4.2 |
| Oil | 4.5 | 7.2 | 61.6 |
| Manufacturing and mining | 5.4 | –6.1 | 2.2 |
| Services | 1.4 | –2.3 | 3.6 |
| GDP | 3.2 | –1.6 | 12.5 |
| Non-oil GDP | 3.0 | –3.1 | 3.3 |

Strategic tourism planning comprises many techniques and methods that can be used and specified for particular places and times (Nematpour & Faraji, 2019). For strategic planning, systematic models are preferred for implementation purposes. Future study methods, especially long-term planning, can be considered a tool of systematic models for development of Iran's tourism market. Due to the lack of a national sustainable income and the government's over-dependence on oil industry revenues and due to the broadness of tourism capacities and resources in Iran, it is vital to develop tourism through logical planning in order to create a way to mend the economy. So, as a first step, we should look at Iran's tourism market as a dynamic system that is based on a supply-side perspective. Serdane (2019) stated that the supply side of tourism plays a vital role in enhancing tourism development and it is considered tourism as providing product or service and must be explored to reach productivity and efficiency. As such, we must consider systematic analysis as a futurology idea for Iran's tourism market development. In this study, we focus on cross-impact analysis as one of the most frequently applied quantitative methods for future study of systematic models at a national scale (see Gordon, 2009). Future study methods help to stimulate

creative thinking in planners and policymakers of the Iranian government, especially the Ministry of Cultural Heritage and Tourism, to consider in a systematized way a wide variety of coherent descriptions of alternative hypothetical futures in tourism system. These predictions reflect different perspectives on the present and future developments, which can serve as a basis for the subsequent action in the system (Amer et al., 2013).

This paper is organized in the following order: section two focuses on providing a theoretical background on the topic. Section 3 presents the chosen methodological approach. In section 4 the research findings are analyzed using the outputs obtained from MICMAC software. Section 5 discusses and draws conclusions with practical suggestions for the cultural heritage and tourism organizations, industry managers, planners and tourism marketing experts, as well as suggestions for future research.

## 2. Literature Review

### *2.1. Tourism Development*

As recent rapid growth in tourism has been seen in many countries, governments try to design and prepare specific strategic plans to advance development trends. Widespread tourism around the world has led to its almost universal integration into local and national development plans and policies (Sharpley, 2009: 14) and there has been considerable debate over the nature of tourism's development, how development should be measured and how it should be encouraged (Pigram & Wahab, 2005). In some developing countries with good tourism potential and resources, tourism has been identified as one of the driving forces for economic development (Manzoor et al., 2019) that can provide a rational basis for its policymaking, especially through balanced growth brought by new or additional business production cycles prompted by tourism expansion. Tourism development is perceived as a catalyst for economic development processes in destinations (Ekanayake & Long, 2012), but this development needs to be considered from a supply or demand perspective (Moe & Tan, 2016; Smith, 1988). The supply-side factors, such as natural endowments, technology and infrastructure play an important role in influencing international tourism flows (Zhang & Jensen, 2007). It is essential to discuss the entrepreneurial role of governments as key stakeholders (Pharino & Pearce, 2019) and as driving development on both the supply and demand side, attracting not only tourists but also investors (Ruggieri, 2016).

From a sustainable development perspective, it has been argued that tourism development includes the planning and ongoing development of destinations, facilities and services to meet the needs of current and future tourists. If tourism is appropriately planned, the development process will result in remarkable benefits for both tourists and host communities. Therefore, strategic planning for tourism should be implemented to meet the desires of the vast majority of people living in the world, so as to attract tourists and build their confidence through tourism activities (Butler, 1999). In terms of efficiency, economic growth (increase in foreign exchanges, source of income, government revenues and employment rate) is considered a good reason for promoting tourism as the main development strategy because of its great potential for national GDP (Kim et al., 2006; Kreishan, 2010; Lee & Chang, 2008). In most cases, meeting the future of integrated tourism development with nonprofessional prediction and analysis of trends causes many challenges in implementing tourism plans; a systematic review of the subject and expert analysis of tourism's future trends is needed to facilitate desirable development (Jandaghi et al., 2020; Nematpour & Faraji, 2019).

### *2.2. Tourism System*

System theory refers to dynamically complex systems that include many elements with integrated interactions and relationships (Baggio, 2008; Gunn, 1994; Leiper, 1990; Mai & Smith, 2018; Mill & Morrison, 1998; Nematpour & Faraji, 2019) and these system elements interact with each other in a non-linear way (Baggio, 2008; Gunn, 1994). To analyze a system, it is necessary to investigate its internal and external aspects. From an internal perspective, the system is a complicated whole that, according to its overall function, depends on the interrelationship of its components (Jackson, 2003). From an external standpoint, each system depends on various factors, such as policies, national laws, natural disasters and human-made crises (Mai, 2012). It is worth mentioning that in the system approach, a kind of holistic vision is dominant (Sedarati et al., 2019). Using system theory implies that system dynamics can be driving force in the planning process, so two points must be taken into account: determining the nature and construction of the dynamic models of the system and creating appropriate future guidelines and structures (Mai & Smith, 2018). Deep understanding of system theory underpins any kind of analysis (Beni, 2001; Leiper, 1990) and this theory is a fundamental along with a philosophical framework for planning (Formica & Kothari, 2008; Pazhuhan & Shiri, 2020) which states that each system comprises an organized set of stakeholders with different goals, plans and interests (Mai & Smith, 2015). If we consider tourism as a whole system (based on system theory), there are obvious interrelationships throughout the system. Firstly, we must determine the basic elements of this system, which are tourists, generating regions, transit routes, destination regions and a tourism industry. These five elements are arranged in terms of spatial and functional connections. The tourism system has the characteristics of an open system, so the five elements operate within broader environments with which they interact: physical, cultural, social, economic, political and technological (Hall & Page, 2010).

It must be noted that the system can be examined from two perspectives: supply side and demand side. This study focuses on the supply side, as the main supply-side feature of the tourism system is the aggregation of all businesses that directly provide goods or services to facilitate business, pleasure and leisure activities away from the home, including automobile manufacturing, gasoline refining, hotel, airport and road construction, craft and souvenir manufacturing, advertising, investment firms and other indirect or wholesale economic activities that are part of the tourism industry (Smith, 1988). Understanding the supply side of the tourism system makes it easy to speak about the tourism planning process. As stated by Formica & Kothari (2008), the system approach helps tourism destination planners and policymakers to learn from existing information to deal with the complexity and uncertainty of the future of the system. The system approach enables a change of mind that allows planners or decision-makers to see non-linear correlations and interrelationships in change processes.

### *2.3. Long-Range Strategic Tourism Planning*

As the future methodology is highly interdisciplinary, Roney (2010) divides the diverse methods used into eight functions, as follows: discovery, design and analysis of systems; modeling and simulation; forecasting; environmental scanning and monitoring; impact/likelihood analysis; scenario construction and contingency analysis; decision-making and information systems to facilitate the above methods. Future study is the scientific way of approaching development processes in terms of possibility, desirability and probability (Kreibich et al., 2011). In planning for the future, analysis of a system has vital functions in developing a good plan (Nematpour & Faraji, 2019). Most planners use planning based on future studies for strategic planning and policymaking. Future studies are not always a panacea and are not an effective tool for communities, as they may challenge the existing situation and can ultimately be

detrimental instead of seeking to make the strategy more effective (Inayatullah, 2013). Future planning tries to collect, integrate and link relevant information to provide organized solutions to build a strategy. Furthermore, analysis of the behavior and strengths of social actors and crucial variables to develop strategies is the main goal of future studies (Apodaca, 2001; Nematpour & Faraji, 2019).

As Glenn & Gordon (2003) argue, the future can never be completely known or anticipated, but it must nevertheless be systematically explored and studied to facilitate desirable futures by improving policy decisions. Representing specific ideas on how to manage future desirably is one of the most important challenges facing the tourism sector (Johnson et al., 2008). Meanwhile, strategic tourism planning focuses on optimizing the advantages of tourism and balancing the appropriate quality and quantity of supply with the level of demand by considering local socio-economic and environmentally sustainable development. Thus, strategic tourism planning, by focusing on quality, efficiency and effectiveness, is a tool that specifically attempts to provide direction for any tourist destination (Edgell et al., 2008: 297). Effective integrated management, stakeholder concerns, effective development, innovative marketing and community planning are essential in designing effective strategic planning. The tourism strategic planning process must be able to adjust competitive thinking by adapting to new trends and changes in the tourism market (Pigram & Wahab, 2005) and those tourist destinations that have been appropriately planned to reach desirable development usually have a competitive edge in the marketplace (Ladeiras et al., 2010; Ruhanen, 2004). Destinations strategic planning aims to meet future sustainability of tourism and tries to ensure a desirable quality of tourism products while yielding the highest number of benefits to the local community or tourist destination. Furthermore, appropriate strategic planning will override short-term goals and focus on key future attributes that are more useful and desirable for the entire community (Formica & Kothari, 2008).

### *2.4. Iran and Its Tourism*

Tourism in Iran has great potential in terms of natural and cultural resources. However, this potential remains untapped due to what can be described as political ambivalence at best and antipathy at worst. At the same time, Iran's image in the global tourism market has been marred by low and negative media attention over a sustained period (Khodadadi, 2016). As a result, the main perception of Iran in the minds of international tourists, especially visitors from North America and Europe, is that of a troubled country. The Iranian government no longer assists in counteracting this image, as tourism is not regarded as a “critical project” of the political agenda. The lack of foreign direct investment in the tourism sector can also be seen as a challenge to mainstream tourism, especially in the accommodation sector, where the provision of products and services is insufficient for the international business and leisure market. As such, hospitality service standards are poor compare to those of other developing countries. In contrast, the welcoming nature, warm hospitality of the local people and the services they provide as small and private businesses are strengths of hospitality in Iran and should be utilized.

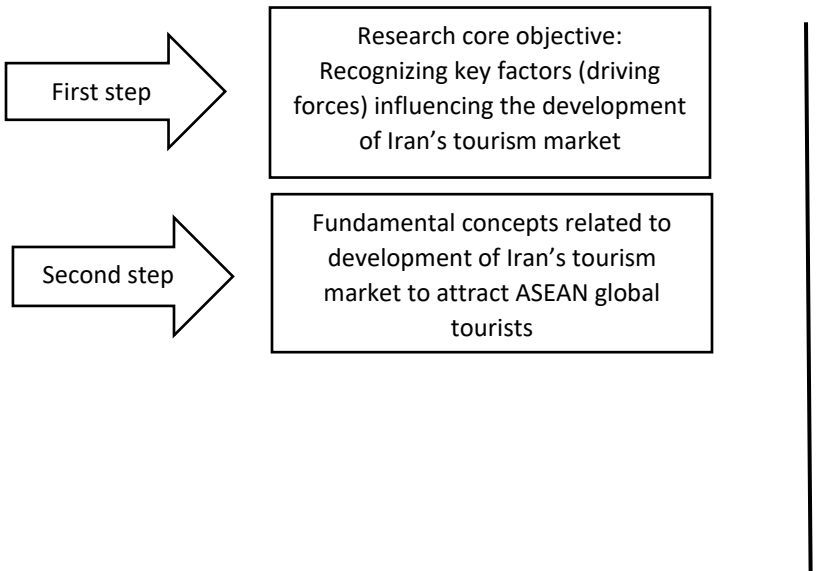
The allocation of governmental positions in Iran has traditionally operated under a system of political and religious patronage and although knowledge must be utilized by practitioners to make informed decisions (McLeod, 2020), but the Iranian tourism government officials have poor knowledge about tourism in terms of promotion and operation and that their vision of tourism is not based on global trends. Alongside this mismanagement is the lack of coordinated and effective human resource development to support the tourism sector. This developmental issue is highlighted by a lack of relevant education and training. There are also significant infrastructure problems with regard to accommodation and transport. In

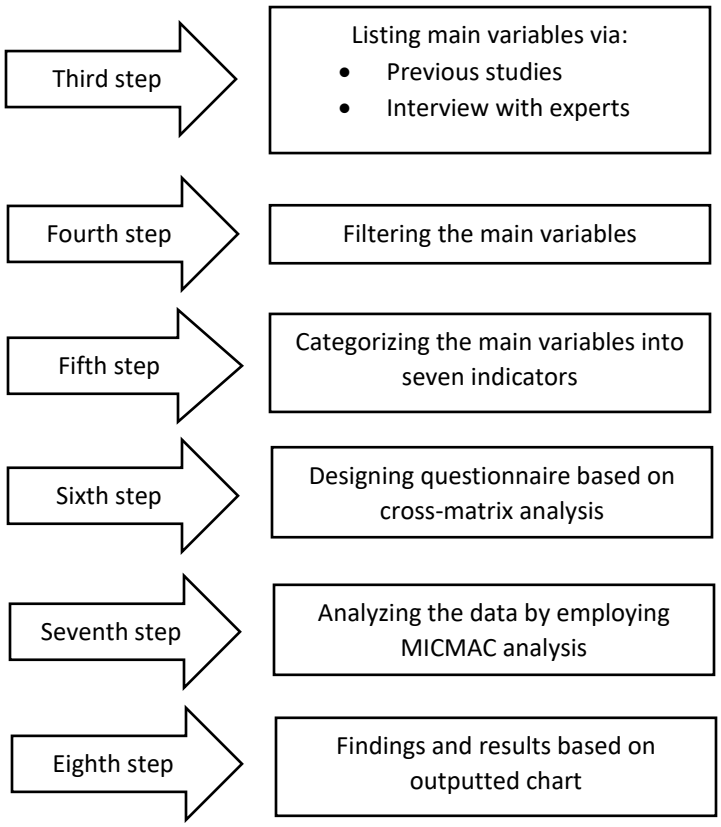
addition, the Iranian economy suffers badly from the sanctions imposed by Donald Trump (Holpuch, 2018), which have led to a reduction in the number of international tourists to Iran, limitations on air transport, and other socio-economic barriers that result in the "creation of a bad image of Iran in the world" (Khodadadi, 2016; Khodadadi, 2018). In terms of organization and facilitation, there is a lack of credit card facilities, which are vital for modern tourism. Sanctions also mean that the systems in place are generally poor and outdated. Transportation issues limit tourism development in peripheral regions where indigenous tourist attractions are concentrated. In marketing terms, international tourism to Iran is seriously challenged by national image problems, linked to local political instability in the Middle East and also to national, social and cultural matters, such as the requirement for women to wear the hijab and the ban on alcohol (Seyfi & Hall, 2018).

Tourism is seen as a means of reducing the Iranian government's heavy dependence on oil revenues and, at the same time, decreasing the pressure and influence of sanctions on the national economy. Since 2019, the Ministry of Cultural Heritage and Tourism has made great strides in developing tourism in Iran. However, only around 7.2 million international arrivals were recorded in 2019 (UNWTO, 2019) including holidaymakers participating in nature-based and culture tours and many Iranians living abroad return to visit friends and relatives or for a pilgrimage (Ghaderi & Henderson, 2012). The Iranian government needs to find other ways to generate income, such as tourism, to revitalize the economy according to the economic challenges and issues currently confronting Iran (Pratt & Alizadeh, 2018). The Iranian tourism authority has focused on some global markets, such as Eastern Europe and Southeast Asia, to attract international tourists in order to achieve economic sustainability. One of the international tourism markets that the Iranian government is focusing on is Southeast Asia (IRCHT, 2019). Southeast Asia, also known as ASEAN (Association of Southeast Asian Nations) comprises 11 countries: Brunei, Cambodia, East Timor, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. The overall mean of GDP in 2018 was 5.2% and in 2017 GDP per capita at current market prices (nominal), in US dollars, was 4,601 (ASEAN statistics, 2018). This ASEAN profile provides appropriate indicators to verify the financial capacity of ASEAN tourists to travel abroad. Iran, as a resourceful destination can adopt a policy of promoting tourism to the world, with a special focus on encouraging the marketing of Iran as a single destination for Southeast Asian travelers.

The following section discusses how the methodology was determined and consists of three main parts: explanation of the importance and objectives of the study, presentation of the basic concepts and the main advantages of the cross-impact analysis method and description of each of the steps needed to conduct a cross-impact analysis based on the MICMAC method. Figure 1 shows the overall study process.

**Figure 1**. Study Process






## 3. Methodology

### 3.1. *Study Aims*

This study aims to provide a new and strategic approach based on a future study that can be useful in planning to attract Southeast Asian tourists to Iran, using the matrix-based multiplication applied to a classification (MICMAC) method, which is recognized in futurology and is used as a strategic planning tool. This technique was used to analyze the development of Iran's tourism market because tourism cannot be planned or managed in isolation. It is necessary to identify the key factors and main drivers that have the most influence on the Iranian tourism system and then to design future strategic planning models.

The study objectives are as follows:

1. Identifying the most important variables in the development of Iran's tourism market to carry out a structural analysis

2. Recognizing key factors that influence the development of Iran's tourism market and explaining the effectiveness of these key factors in attracting tourists from South East Asia.

### 3.2. *Cross-Impact Analysis*

Development plans are regularly formulated without considering their possible influence and dependence on each other, which is perceived as a weakness of future study methods. To know the future behavior of a system, it is necessary to evaluate its sets of variables to describe interrelationships between them, so that the future of the system can be anticipated. The interrelationships between the variables are titled "cross-impact" and "cross-impact analysis" is used to analyze them (Nematpour & Faraji, 2019). The cross-

impact analysis uses a matrix to describe potential and actual modes of interaction between variables in quantitative and qualitative ways (Schlange & Jüttner, 1997) and allows expert panels to easily rate the relationships among N variables in the form of two comparisons (n × n). Cross-impact analysis has progressed in several versions including quantitative (based on construction of a mathematical model relating to the variables), qualitative (estimation of relationships among the variables in the form of a matrix, by an expert panel) and mixed (Asan & Asan, 2007; Godet, 2000; Gordon, 2009). In this study a qualitative cross-impact analysis was adopted based on structural analysis (Duperrin and Godet, 1973) which is known as a powerful tool for analyzing a set of binary future events and is also one of the most commonly used methods for creating and analyzing scenarios with a flexible methodology that can be combined with other methods and techniques like fuzzy (Asan et al., 2004), Delphi (Bañuls & Salmeron, 2007; Bañuls & Turoff, 2011) or multi-criteria methods (Cho & Kwon, 2004).

The structural analysis method can be defined as a system (network) including a set of interrelated variables and is a variant of the original cross-impact analysis method considering direct and indirect relations (Cabrera et al., 2002). Structural analysis evaluates the evolution of the system's components by applying an interconnection matrix (Nematpour & Faraji, 2019). The most important result of structural analysis is the identification of the key variables controlling the evolution of the system. Furthermore, the relationships of variables characterizing the system should be identified in terms of structure. MICMAC as a structural analysis technique was proposed by Duperrin and Godet (1973). The technique is employed to identify key variables in a system when an expert panel analyzes a given set of variables in two forms: matrix of direct influence (MDI) and matrix of potential indirect influence (MPII) (Villacorta et al., 2014). Each cell of MDI "ij" shows the impact of each "i" variable on a "j" variable. Collecting the inventory of variables, describing the variables' relationships and identifying key variables are the steps of the technique (Arcade et al., 1999). Depending on the qualitative nature of the data, analysis should be carried out using a direct/indirect method that ranks the variables using their direct/indirect influence/dependence on the other variables. Based on the use of MDI in this study, the elements of an MDI matrix are formed into $k_{th}$ row and $k_{th}$ column. Thus, we have the following formula:

$$I_k = \sum_{j=1}^{n} MDI\ (\mathrm{k}, \mathrm{j}) \text{ and } I_k = \sum_{j=1}^{n} MDI\ (\mathrm{j}, \mathrm{k})$$

The chart obtained from MICMAC is a two-dimensional map with vertical and horizontal axes that represent the influence and dependence, respectively (see Figure 2) (Asan & Asan, 2007; Godet et al., 2008; Villacorta et al., 2014). As Nematpour and Faraji (2019) argued there are five zones in every chart:

- Input/influential variables are inputs and the level of influence of these variables on other ones is much higher than the level of their dependence in future. They are defined as determinative and key drivers of the system and therefore the system is strongly dependent on these variables.
- Intermediate/key variables, due to their unstable nature can be very influential and very dependent at the same time.
- Output/dependent variables, due to their low level of influence and high level of dependence are sensitive to changes in influential and intermediate variables. Thus, they are considered resultant or output variables of the system.
- Excluded variables are not able to interfere with the system and are known as independents or "out of chart" because their low level of influence and dependence is considered their main characteristic.

- Clustered variables, because of their position in the border areas of each of the four zones have a high possibility for joining other variables. Thus, the system cannot make certain decisions about them.

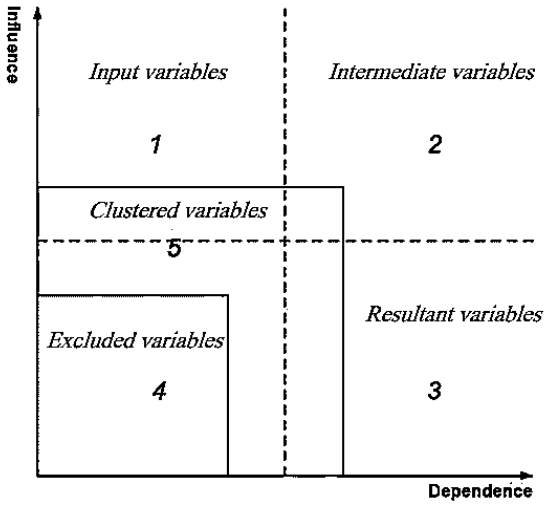



**Figure 2.** Influence–dependence chart, adapted from Godet (1994)

### 3.3. *Study Methodology Process*

The study period extended from September 2019 to February 2020. In this study, we focused on a structural analysis perspective (Gordon, 2009) based on cross-impact analysis (Nematpour & Faraji, 2019) to identify key variables for designing long-range planning for the development of the tourism market in Iran, specifically to attract Southeast Asian tourists. Long-range planning based on the structural analysis approach is a method that is normally developed in four phases: (1) problem analysis, (2) variable definition, (3) relationship analysis and (4) chart analysis to select the key variables for use in the future of the system (Arcade et al., 1999; Nematpour & Faraji, 2019; Postma, 2015). We used a purposive sampling method (Devers & Frankel, 2000; Neuman, 2006) in selecting experts. Avella (2016) suggested that a normal sample size should be around 10 to 100 people in the form of 2 or 3 expert groups. Purposive sampling, known as judgmental, expert, or subjective sampling, is a non-probability method that is based on the characteristics of the experts and the objectives of the study. The reason for applying purposive sampling in this paper is to allow the selection of a group of experts who have a deep understanding of, or are information-rich in a specific field (Neuman, 2006), who can provide full insight into the research questions (Devers and Frankel, 2000) and are willing to share their knowledge. Experts can provide valuable insights into the root of problems, what has been tried and has worked or failed, and future trends to watch (Frey, 2018). The experts, who were academics, professionals or both, were selected based on their capabilities in the tourism sector. A self-administered questionnaire was used to collect the data, applied to design the cross-impact analysis matrix. We planned to collect data from 30 individuals, 22 of whom returned a completed questionnaire (see Table 2).

**Table 2**. Profile of respondents

| Respondents | Degree | Academic/professional position |
|---|---|---|
| **R1, R2, R3, R4, R5, R6** | PhD in tourism management | Academic |

| | | |
|---|---|---|
| **R7, R8, R9** | PhD in public management | Academic |
| **R10, R11, R 12, R13** | PhD in marketing management | Academic |
| **R14, R15** | PhD in political geography | Academic |
| **R16** | PhD in urban planning | Academic and professional |
| **R17** | PhD in hotel management | Academic and professional |
| **R18** | PhD in planning and development | Academic and professional |
| **R19, R20, R21** | MSc in tourism management | Professional |
| **R22** | MSc in administrator management | Professional |

### *3.3.1. First Phase: Problem Analysis*

The central issue of this study is to use tourism as a driving force for economic growth by attracting international tourists from different regions of the world, specifically from Southeast Asia and to identify the main possible contributing factors to achieving economic growth through tourism development. The expert panel approached this issue from two perspectives: a supply-side and a demand-side. They considered the supply-side of tourism a dynamic system that comprises 60 factors that influence the development of Iran's tourism market, then grouped the contributing factors into broad categories where appropriate. The expert panel grouped the 60 variables into 7 main groups of economic; socio-cultural; political, spatial, and organizational; information and technology; law; spatial and infrastructure; and products and services indicators. After re-evaluating the 60 factors, the panel decided that 17 of them were not appropriate and the final list contained 43 variables.

### *3.3.2. Second Phase: Variables Definition*

Previous studies and interviews with experts provided the basis for the study's variable-definition process for the development system of Iran's tourism market. As structural analysis is based on experts' opinions (Nematpour & Faraji, 2019), the experts must include people with a rich knowledge of cross-impact analysis and tourism science (see Arcade et al., 1999). Thus, the final list of variables was decided by consensus and finalized exactly as 43 variables, which were clearly defined, characterized and understood by all respondents. The 43 strategic variables used in this study cover 7 fields of macro indicators affecting tourism development in Iran: economic; socio-cultural; political, structural and organizational; information and technology; law; spatial and infrastructure; and product/service (see Table 3).

**Table 3.** Study indicators and sub-indicators

| | Indicator | Sub-indicator | Variables |
|---|---|---|---|
| 1 | Economic | 1. Modern marketing | Var1 |
| | | 2. Allocating budget for tourism plans | Var2 |
| | | 3. Economic and financial facilities | Var3 |
| | | 4. Entrepreneurship in tourism | Var4 |
| | | 5. Extending privatization | Var5 |
| | | 6. Competitiveness | Var6 |
| | | 7. Investing | Var7 |
| | | 8. Purchasing power of tourists | Var8 |
| 2 | Socio-cultural | 1. Community participation | Var9 |
| | | 2. Traditional festivals and holidays | Var10 |
| | | 3. International events | Var11 |
| | | 4. Carrying capacity of the community | Var12 |
| | | 5. Create sense of trust in tourists | Var13 |
| 3 | | 1. International relations with Southeast Asian countries | Var14 |
| | | 2. Inter-departmental/organizational coordination and integration | Var15 |

| | | | |
|---|---|---|---|
| | Political, structural and organizational | 3. Tourism development master plan | Var16 |
| | | 4. Large-scale (macro) policymaking in tourism | Var17 |
| | | 5. Incentives policies for the private sector | Var18 |
| | | 6. Positive imagery of Iran | Var19 |
| | | 7. Safety and security | Var20 |
| | | 8. Scientific education and research in tourism | Var21 |
| | | 9. Specialized management in tourism | Var22 |
| | | 10. Tourist language education programs | Var23 |
| | | 11. Facilitation of visas for Southeast Asian tourists | Var24 |
| 4 | Information and technology | 1. General level of knowledge (general public) | Var25 |
| | | 2. Specialized level of knowledge (elites) | Var26 |
| | | 3. New technologies in the tourism industry | Var27 |
| | | 4. Digital advertising | Var28 |
| | | 5. E-commerce in tourism and hotel industry | Var29 |
| | | 6. Comprehensive tourism database of Iran | Var30 |
| 5 | Law | 1. Tourism standard laws and regulations | Var31 |
| | | 2. Human resource laws and regulations | Var32 |
| 6 | Spatial and infrastructure | 1. Aesthetic attributes of public and human-made spaces | Var33 |
| | | 2. Communication infrastructure | Var34 |
| | | 3. Structure and infrastructure properties | Var35 |
| | | 4. Healthcare network | Var36 |
| 7 | Product/service | 1. Quality of wellbeing | Var37 |
| | | 2. Tourism facilities and services | Var38 |
| | | 3. Diversification of incoming tours | Var39 |
| | | 4. Standardization of tourism organizations and agencies | Var40 |
| | | 5. Cultural and historical tourism products and services | Var41 |
| | | 6. Creative tourism | Var42 |
| | | 7. Medical tourism | Var43 |

### *3.3.3. Third Phase: Relationships Analysis*

The variables identified in the previous phase were entered into the analysis matrix after the experts rated the degree of their influence. A variable in a systems approach exists only by its relationship with other variables. The structural analysis therefore attempts to discover the relationships between variables in a dual-entry table called a "structural analysis matrix." A group of experts who have previously involved in listing and defining the variables completes in the structural analysis table over a period of two to three days. The filling must be qualitative. The following questions are asked for each pair of variables: Does a direct relationship of influence exist between variable i and variable j? If there is not, 0 is set, and if there is, the question is asked whether this relationship of direct influence is low (1), medium (2), high (3) or potential (4) (Dewangan et al., 2015). In this study, a direct classification (see Asan & Asan, 2007) was applied, which uses a cross-impact matrix to establish all direct impacts between the variables to evaluate the strengths of these impacts (see Table 4 and Figure 3). An influence interrelation network—V i → V j and V j → V i—indicate that V i influence V j and V j influences V i.

**Table 4.** Hypothetical sample of cross-impact matrix

| | V1 | V2 | V3 | V4 | V5 |
|---|---|---|---|---|---|
| V1 | 0 | 1 | 0 | 1 | 3 |
| V2 | 3 | 0 | 1 | 1 | 1 |
| V3 | 0 | 0 | 0 | 0 | 2 |

| | | | | | |
|---|---|---|---|---|---|
| V4 | 0 | 0 | 2 | 0 | 0 |
| V5 | 3 | 0 | 2 | 0 | 0 |

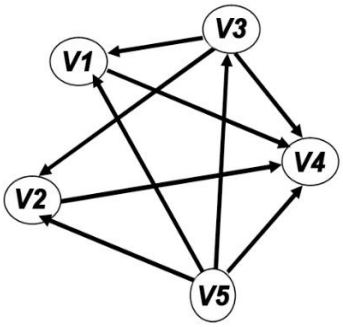



**Figure 3.** Hypothetical sample of spatial structure of variables

### *3.3.4. Fourth Phase: Chart Analysis*

In this phase, an influence–dependence chart (Asan & Asan, 2007) was obtained using the MICMAC technique to interpret the results. In the chart, each variable, based on its influence and dependence values, is assigned to a specific position that indicates the individual role and function of the variable about the system, as input/influential, intermediate/key, output/dependent, excluded and clustered variables (Schlange & Jüttner, 1997). The chart implies the participants' thinking and assessment of the tourism development system and what they perceive as variables of change for the future. Variables are perceived as potentialities variables with high influence and dependence capacity, opportunities variables with medium influence and dependence capacity and constraints variables that cannot be influenced. The structural analysis also determines loops or networks of interrelated variables through the establishment of a spatial structure indicated by influence graphs (Nematpour & Faraji, 2019). Considering the direct classifications and the chart analysis, the variables with both high influence and high dependence are selected as key variables to facilitate long-range planning for the related system (Asan & Asan, 2007).

## 4. Findings

In any local, regional and national tourism system, the supply and demand determine the success or failure of the system. Today's tourism sector faces questions about how to determine, plan and manage tourism development to achieve greater economic benefits. The supply-side may include factors such as political actions, geographical status, availability of products and services and technological facilities, which lead to tourism planning and policymaking, a positive image, a variety of tourist service providers and international peace and stability (Pazhuhan & Shiri, 2020). Iran seems to have failed on the supply-side due to the lack of a systematic regional and national tourism planning strategy. For such systematic planning, the identification of variables of Iran's tourism development system is necessary and the importance of each of the variables and the relationships between them are significant. The primary objective of the study was to identify the critical development variables for the Iranian tourism sector. 43 tourism development variables were identified from the literature and by experts. The interrelations among these tourism development variables were obtained through expert opinion and then converted into a structural interaction matrix. Tourism development variables fall into seven categories of indicators:

economic; socio-cultural; political, structural, and organizational; information and technology; law; spatial and infrastructure; and products/services.

The second objective of the study was to carry out an analysis based on the influence and dependence of the development variables and to validate the developed structural analysis. The results of the structural analysis were used as an input for the MICMAC technique. To identify the most important variables of Iran's tourism market development system, 60 variables were collected by reviewing the related previous studies and interviewing experts (including academics and administrative experts in Iranian tourism affairs). Then, 43 of the 60 variables were re-evaluated and filtered by the expert panel and were divided into the 7 groups described above. In the last step, the final variables were adapted in the form of a 43×43 cross-impact matrix. After collecting data from the expert panel, they were evaluated using the MICMAC technique and cross-impact analysis. The amount of matrix filtration was 61.60, indicating that 61.60% of variables influence on each other. To summarize, out of 1849 matrix-based relationships, 710 (34.40%) had no relationships, 405 (21.90%) had weak relationships, 368 (19.90%) had moderate relationships, and 366 (19.79%) had strong relationships with each other (see Table 5). The validation of the structural analysis based on MICMAC was conducted with the experts in the field.

**Table 5.** MDI matrix

| Indicator | Value |
|---|---|
| Matrix size | 43 |
| Number of iterations | 2 |
| Number of zeros | 710 |
| Number of ones | 405 |
| Number of twos | 368 |
| Number of threes | 366 |
| Number of P | 0 |
| Total | 1849 |
| **Filtrate rate** | **61.602%** |

A cross-impact analysis using MICMAC was used to validate the integrated structural analysis, based on the influence and dependence of the tourism development variables identified from the stabilized fuzzy matrix (Dewangan et al., 2015; Patidar et al., 2017). Tourism managers can get an idea of these tourism development variables and understand their relative importance and interdependence. With fuzzy MICMAC analysis, tourism development can be classified into five clusters (see Figure 2) as some of the main findings of this analysis are presented in Table 6.

The development variables in this first group have strong driving power and are indicated as independent and are termed as "critical". The results of the study reveal that six development variables belong to the independent region and therefore need more attention. These are the most critical development variables and are a primary step to expanding the current market in the tourism sector for enhancing Southeast Asian tourist travels to Iran. Planners and policymakers should adopt the strategies that facilitate the effective implementation of these independent development variables. The variables in the second cluster are known as intermediate or linkage development variables, with high driving power (influence) and dependency and are unstable because any action taken by them may affect the other development variables due to a feedback effect. Intermediate variables are influenced by lower-level variables and in turn, have an impact on other development variables in the system's model, which may affect effective implementation in the tourism sector in either a positive or a negative way. In this study, 10 variables are categorized in the intermediate category and play an important role in improving the

travel Southeast Asian tourists to Iran. Planners and policymakers need to be particularly attentive to the handling of these variables.

The third cluster is a dependent quadrant with high dependency powers and low driving forces (influence), known as "resultant" variables. In this study, five variables are strongly dependent on other tourism development variables. Their high dependency indicates that they require all the independent variables to minimize the impact of dependent variables on tourism development (Patidar et al., 2017). In re-evaluating the clustered region of the chart/map, due to high dependencies, Var1 (modern marketing) and Var27 (new technologies in the tourism industry) may have been considered in the third cluster and much influenced by the system. They are known as autonomous variables and are relatively disconnected from the tourism system. Therefore, they have only a few links, which may not be strong and do not have much influence on the tourism system. Figure 4 shows that there are eight excluded variables that are disconnected from the system. Information resulting from the cross-impact matrix based on MDI reveals that most of the variables have a significant role in improving relationships within the tourism development system of Iran, but only some of them have maximum influence on the system and they are known as key and intermediate variables. Some variables (e.g., Var2, Var13, Var15, Var18, Var23, Var25, Var29, Var30, Var31, Var33, Var35, and Var40) in the cluster zone of the chart, due to their dependency and influence, have the potential to play a role in the tourism system of Iran, but the clustered variables are moderately influential and/or dependent variables, and it is therefore difficult to predict their evolution in advance (Asan & Asan, 2007).

**Table 6**. Major findings of the fuzzy MICMAC analysis

| Clusters | Results |
|---|---|
| **Cluster 1** (input/influential variables) | Var17 (large-scale (macro) policymaking in tourism)<br>Var21 (scientific education and research in tourism)<br>Var24 (facilitation of visas for Southeast Asian tourists)<br>Var26 (specialized level of knowledge)<br>Var34 (communication infrastructure)<br>Var36 (healthcare network) |
| **Cluster 2** (intermediate/key variables) | Var11 (international events)<br>Var16 (tourism development master plan)<br>Var19 (positive imagery of Iran)<br>Var20 (safety and security)<br>Var28 (digital advertising)<br>Var37 (quality of wellbeing)<br>Var38 (tourism facilities and services)<br>Var39 (diversification of incoming tours)<br>Var41 (cultural and historical tourism products and services)<br>Var42 (creative tourism)<br>Var43 (medical tourism) |
| **Cluster 3** (output/dependent variables) | Var4 (entrepreneurship in tourism)<br>Var7 (investing)<br>Var10 (traditional festivals and holidays)<br>Var22 (specialized management in tourism)<br>Var29 (e-commerce in tourism and hotel industry) |

| | |
|---|---|
| **Cluster 4** (excluded variables) | Var3 (economic and financial facilities)<br>Var5 (extending privatization)<br>Var6 (competitiveness)<br>Var8 (purchasing power of tourists)<br>Var9 (community participation)<br>Var12 (carrying capacity of the community)<br>Var14 (international relations with Southeast Asian countries)<br>Var32 (human resource laws and regulations) |

### 4.1. *Interpretation*

To interpret the results, the variables characterizing the system under study are projected onto the influence–dependence chart in Figure 4. The variables are distributed in four zones and each of the zones has a specific character (Jandaghi et al., 2020). The influence and dependence rankings and values were also taken into consideration (Table 7 and 8). In Table 7, the variables are presented according to direct influence .Variables that are highly influential include medical tourism, diversification of incoming tours, creative tourism, cultural and historical tourism product and services, positive imagery of Iran, tourism facilities and services, safety and security, quality of wellbeing, international events and tourism development master plan. These variables are known as significant or key variables of the system. In Table 8, the variables are classified according to dependency. The variables that have a high dependency rate are investment, specialized management in tourism, traditional festivals and holidays, international events, entrepreneurship in tourism, cultural and historical tourism product and services, creative tourism, diversification of incoming tours, medical tourism, and quality of wellbeing. These are known as dependence variables of the system.

**Table 7.** Direct influence of variables

| Variable | | Matrix direct influence | Variable | | Matrix direct influence |
|---|---|---|---|---|---|
| 1 | Var43 | 455 | 23 | Var30 | 214 |
| 2 | Var39 | 451 | 24 | Var31 | 214 |
| 3 | Var42 | 437 | 25 | Var4 | 205 |
| 4 | Var41 | 419 | 26 | Var27 | 205 |
| 5 | Var19 | 415 | 27 | Var2 | 200 |
| 6 | Var38 | 401 | 28 | Var35 | 200 |
| 7 | Var20 | 379 | 29 | Var13 | 187 |
| 8 | Var37 | 357 | 30 | Var33 | 169 |
| 9 | Var11 | 343 | 31 | Var23 | 156 |
| 10 | Var16 | 339 | 32 | Var10 | 151 |
| 11 | Var28 | 334 | 33 | Var25 | 147 |
| 12 | Var34 | 321 | 34 | Var1 | 142 |
| 13 | Var26 | 317 | 35 | Var14 | 138 |
| 14 | Var21 | 312 | 36 | Var32 | 125 |
| 15 | Var17 | 259 | 37 | Var12 | 89 |
| 16 | Var40 | 245 | 38 | Var5 | 84 |
| 17 | Var7 | 241 | 39 | Var22 | 75 |
| 18 | Var36 | 236 | 40 | Var9 | 58 |
| 19 | Var24 | 232 | 41 | Var3 | 44 |
| 20 | Var15 | 218 | 42 | Var6 | 31 |
| 21 | Var29 | 218 | 43 | Var8 | 0 |
| 22 | Var18 | 214 | | | |

**Table 8.** Direct dependence of variables

| Variable | | Matrix direct dependency | Variable | | Matrix direct dependency |
|---|---|---|---|---|---|
| 1 | Var7 | 384 | 23 | Var31 | 209 |
| 2 | Var22 | 384 | 24 | Var35 | 205 |
| 3 | Var10 | 370 | 25 | Var6 | 196 |
| 4 | Var11 | 370 | 26 | Var33 | 196 |
| 5 | Var4 | 352 | 27 | Var12 | 192 |
| 6 | Var41 | 348 | 28 | Var34 | 192 |
| 7 | Var42 | 348 | 29 | Var9 | 187 |
| 8 | Var39 | 326 | 30 | Var2 | 183 |
| 9 | Var43 | 321 | 31 | Var26 | 183 |
| 10 | Var37 | 303 | 32 | Var13 | 178 |
| 11 | Var38 | 299 | 33 | Var5 | 169 |
| 12 | Var16 | 281 | 34 | Var18 | 169 |
| 13 | Var29 | 281 | 35 | Var21 | 169 |
| 14 | Var40 | 263 | 36 | Var32 | 169 |
| 15 | Var28 | 259 | 37 | Var14 | 165 |
| 16 | Var20 | 250 | 38 | Var3 | 151 |
| 17 | Var1 | 245 | 39 | Var23 | 142 |
| 18 | Var27 | 241 | 40 | Var25 | 142 |
| 19 | Var17 | 227 | 41 | Var15 | 98 |
| 20 | Var19 | 223 | 42 | Var24 | 93 |
| 21 | Var30 | 218 | 43 | Var8 | 84 |
| 22 | Var36 | 214 | | | |

As shown in Figure 4, intermediate variables are considered important because of their high degree of direct influence. In the systematic analysis, it is essential to identify key variables in the system. According to previous studies (Arcade et al., 1999; Asan and Asan, 2007; Godet et al., 2008; Jandaghi et al., 2020; Nematpour and Faraji, 2019; Villacorta et al., 2014), the criteria for determining key variables are based on degree of influence. In this study, 10 variables (medical tourism, diversification of incoming tours, creative tourism, cultural and historical tourism products and services, positive imagery of Iran, tourism facilities and services, safety and security, international events, tourism development master plan, and digital advertising) were identified as key variables for Iran's tourism development system. According to Figure 4, those variables with the highest degree of direct influence on the development of tourism in Iran are located in the northeastern part of the plotted map. Intermediate/key variables are the most important and influential variables in Iran's tourism development system and future of its development depends on them.

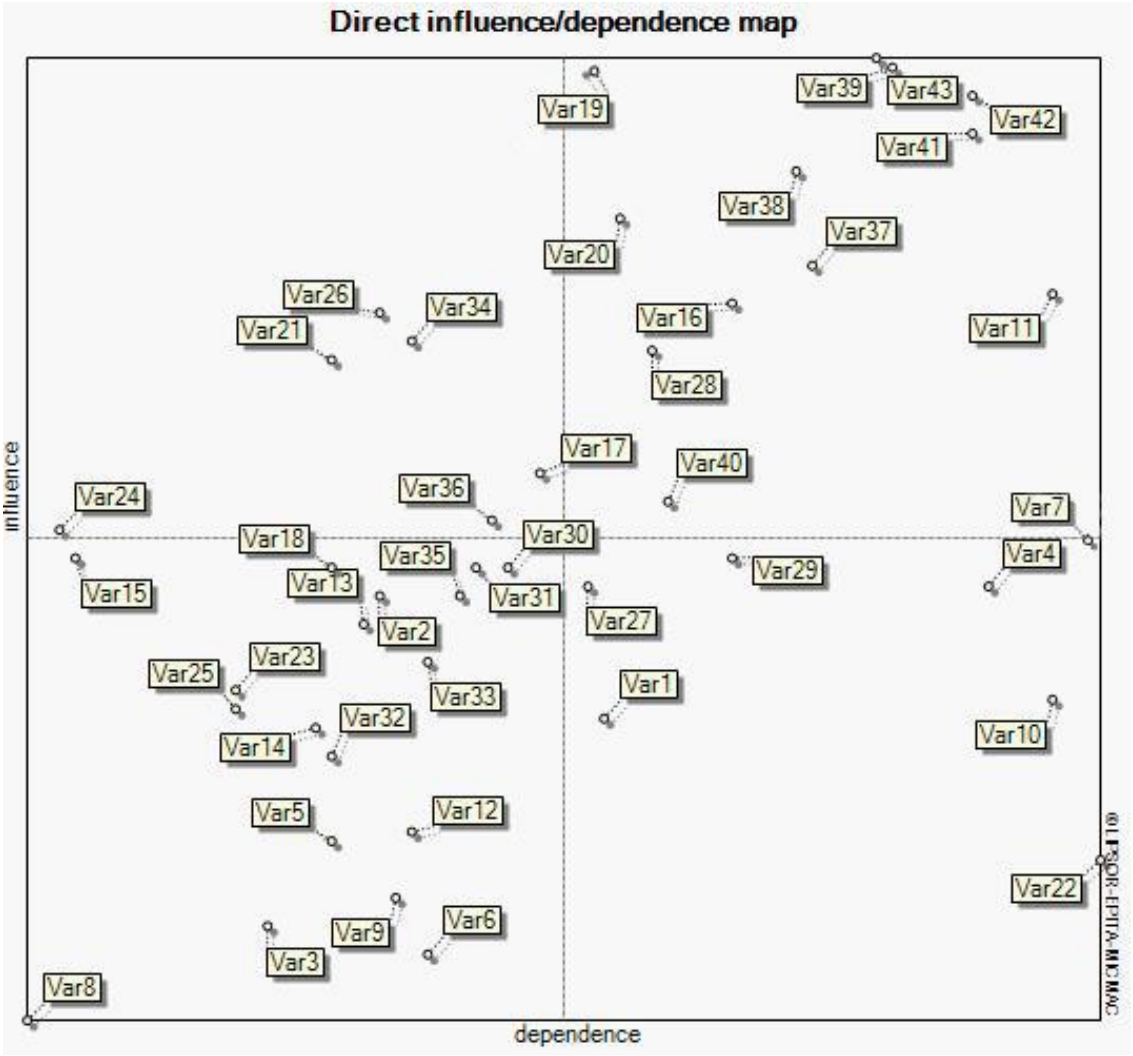



**Figure 4.** Influence and dependence of variables

### 4.2. *Spatial Structure of Tourism Development Direct Indicators*

Figure 5 indicates that the spatial structure of direct drivers of Iran's tourism development at a 10% rate are constructed by indicators such as international events, positive imaginary of Iran, cultural and historical tourism products and services, quality of wellbeing, medical tourism and creative tourism, which have a high degree of influence on some indicators and may have high dependence on others. The spatial structure of direct drivers of tourism development with a 100% rate contains all kinds of relationships (potential, strong, moderate, weak and none) including indicators such as international events, specialized level of knowledge, new technologies in the tourism industry, aesthetic attributes of public and human-made spaces, tourist language education programs, economic and financial facilities and purchasing power of tourists. These are the most important indicators in the constructed spatial structure of the tourism development system in Iran (Nematpour & Faraji, 2019).

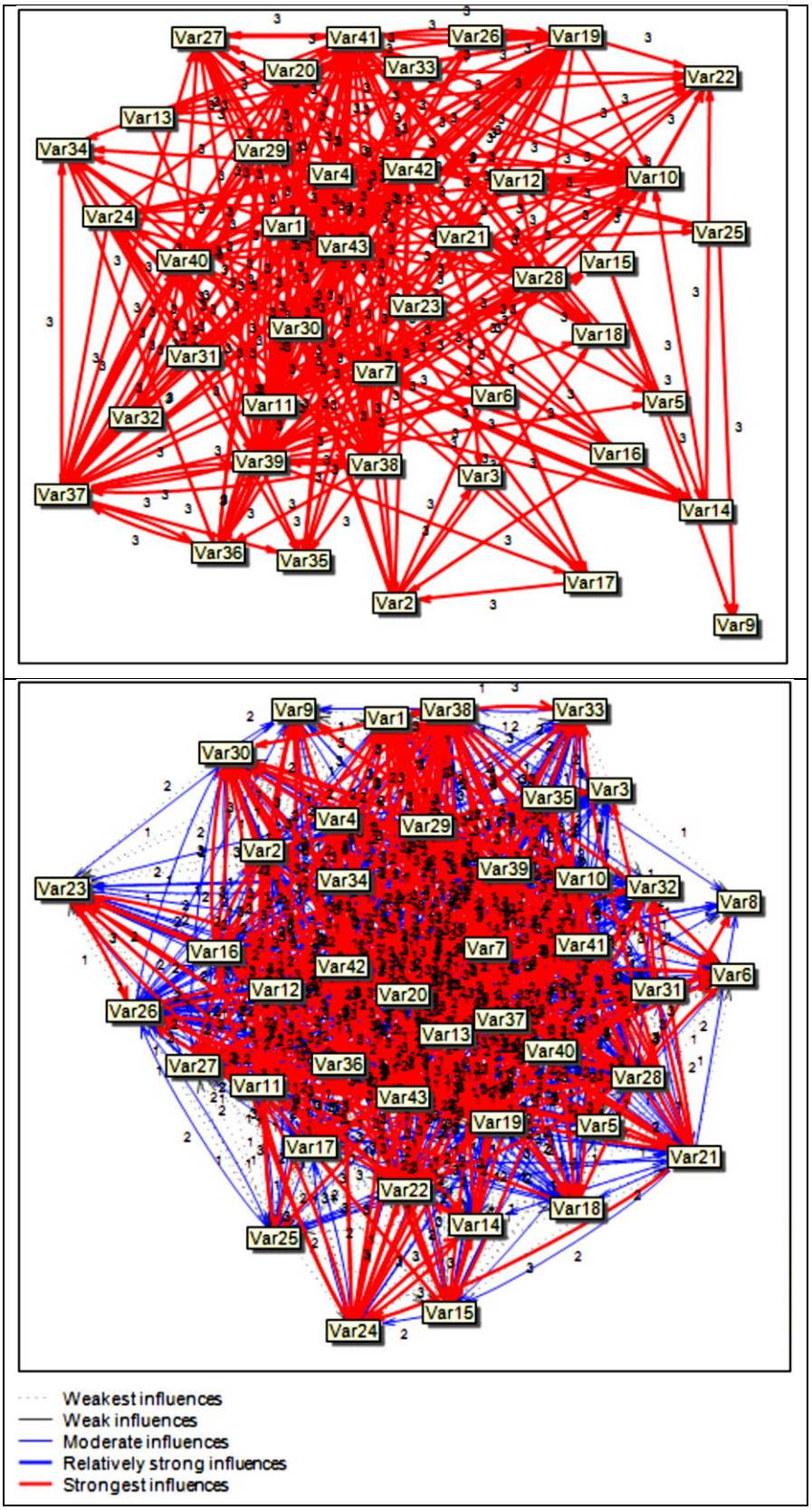



**Figure 5.** Spatial structure of tourism development direct indicators with 10 percent and 100 percent rate

### *4.3. The Stability and Instability of the Tourism Development System*

The stability of the tourism development system is crucial, as tourism can play an important role in global stability. As Figure 6 shows, if the points (variables) are spread around the main diagonal of the chart (as a diamond shape), this implies that the system is unstable, but if the points (variables) are distributed along with the chart (as an L shape) this implies that the system is stable (Nematpour & Faraji, 2019). The advantage of systems with a stable nature is that they introduce a dichotomy between the influential variables, which may or may not be influenced, and the dependent variables that depend on them (Godet, 1994). If the system is unstable, the absence of influencing variables threatens the system. According to these explanations and as shown in Figures 5 and 6, Iran's tourism market development system is unstable but it somehow has stability characteristics. Each variable has both an influential and a dependent role, and any action on one variable affects all tourism development variables and the origin variable (Godet, 1994).

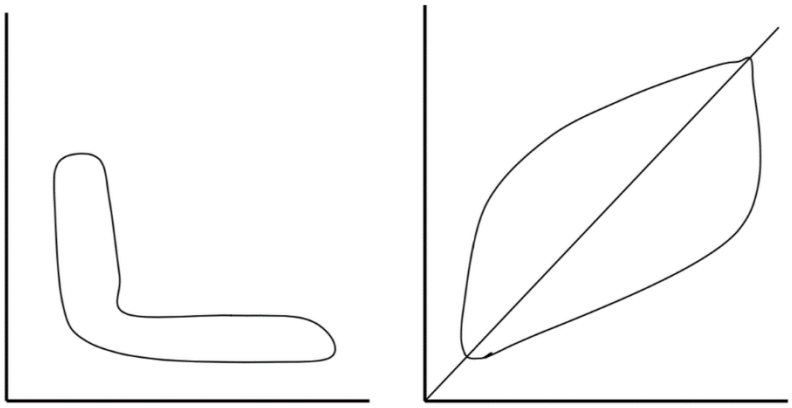


**Figure 6.** System stability according to the influence–dependence chart

## 5. Discussion and Conclusion

Most destinations implement tourism development without determining the key variables of the development process, which is not possible in practice. Cross-impact analysis, as a tool for future study, reveals the characteristic role and importance of a variable in the tourism system by examining all potential interactions (Asan & Asan, 2007). For developing an integrated model to assess the interaction between development variables in Iran's tourism system, 43 variables were compared pairwise to create the data for structural analysis by employing fuzzy MICMAC analysis. Structural analysis allowed a precise selection of significant variables for the establishment of the development system of Iran's tourism market. Direct relationships are estimated and this information is used to review and weigh the cross-impact to construct the influence and dependence values that are applied to identify the characteristic role of each development variable in Iran's tourism system. Strategic planning of Iranian tourism industry, considering key variables, will enable governments to recognize strengths, weaknesses, opportunities and threats and apply these findings for improving and enhancing the benefits of tourism. There is no doubt that any improvement in our understanding of the key variables of the Iranian tourism system will lead to better scenarios and strategies for its development.

### *5.1. Theoretical implications*

This study has identified some of the most important factors in Iran's tourism market, which can be considered driving forces in the long-term national and regional development strategy. It also aims to make strategic planning one of the research priorities of Iran's Ministry of Cultural Heritage and Tourism. In this regard, the initial extracted variables, based on a supply-side of tourism development are specifically relevant to attracting Southeast Asian tourists, although many of them are general, regardless of the host community, such as communication infrastructure. However, in some cases the variables are specific to attracting investment from ASEAN countries, such as improving political relationships with ASEAN, or digital advertising and marketing specifically related to developing Iran's tourism market to attract Southeast Asian tourists. The final list of key variables is identified as below. It is strongly suggested to Iranian tourism authorities to considered these 10 variables for strategic planning of future tourism development.

- Var11 (international events)
- Var16 (tourism development master plan)
- Var19 (positive imagery of Iran)
- Var20 (safety and security)
- Var28 (digital advertising)
- Var38 (tourism facilities and services)
- Var39 (diversification of incoming tours)
- Var41 (cultural and historical tourism products and services)
- Var42 (creative tourism)
- Var43 (medical tourism).

It should be mentioned that Var37 (quality of wellbeing) and Var38 (tourism facilities and services) were almost identical, and it can be proved that Var37 was inherent to the Var38 for the purpose of the study, so Var37 was eliminated. The results confirmed that certain variables (key variables) that were previously considered unimportant, actually play a leading role in developing Southeast Asian tourism in Iran (Arcade et al., 1999; Asan and Asan, 2007; Dewangan et al. 2015; Godet et al., 2008; Nematpour and Faraji, 2019; Patidar et al., 2017; Villacorta et al., 2014). As the Iranian tourism system is based on instability, the sustainability of the development of the tourism market must be considered as a fundamental concept of any strategic and action plan in Iran.

### *5.2. Practical implications*

The graph-based model obtained from the fuzzy MICMAC analysis provided valuable insights on the relative importance of and interdependencies of the development variables. These results show that for some of the variables in Iran's tourism market development, the private sector can help the government. For example, the private sector can develop "medical tourism", as a competitive advantage of Iran's tourism, using modern and traditional treatments, offering high-quality and low-cost services. Tourism DMO's and travel agencies can use strategies to improve the "diversification of incoming tours", depending on the characteristics of the target markets, which are Southeast Asian countries. The third important variable concerns the provision of more "tourism facilities and services" to increase the quality of tourists' welfare, for example by establishing or improving recreational and accommodation facilities

and shopping centers with high international standards or by specializing restaurants based on the food preferences of Southeast Asian tourists.

The compilation and formulation of "tourism development master plan" based on supply and demand is a necessary element of the development process of each destination, which has always been a weakness in the case of Iran. In terms of "safety and security," Iran's government can improve physical and psychological security structures by providing the political and legal security for tourists, creating mental security and physical safety in public places, employing a tourism police service and ensuring other elements of security such as health and sanitation, taking into account the effects of cultural dimension on people's perception about security (Syam et al., 2011). "International events," such as business, sport, entertainment, cultural events and festivals may be appropriate choices (Getz, 2008) to attract Southeast Asian tourists. "Digital advertising" is another effective strategy, including social media advertising, video content advertising, and search engine marketing, that are the best options (Belanche et al., 2017) based on regional marketing, while considering elements such as the language and culture of ASEAN countries. Creating a "positive imagery of Iran" requires political effort on the part of the government, which is expected to improve mutual international relations with Southeast Asian countries by considering security-centric, culture-centric, and profit-centric approaches. Also, "facilitation of visas for Southeast Asian tourists" can easily be achieved using airport visas. The Ministry of Cultural Heritage and Tourism should pay particular attention to the potential of Iran's culture and history. Developing "creative tourism" based on Iran's cultural resources by providing "cultural and historical tourism products and services" is likely to be an effective strategy for improving Southeast Asian tourists' experiences, including providing of artistic (folk art, fork music, performance art and architecture), religious (religious sites and events), regional (local traditional, local cuisine, local festivals and ancient architecture) and recreational cultural tourism products (amusement parks, theme parks, botanic gardens and zoos).

### *5.3. Limitations and future research*

Although the MICMAC analysis is more able to indicate the complexity of the variables than many other current methods, the study inevitably has some limitations. The level of knowledge of the expert panel is essential and the outcome of the method depends on their expertise. Therefore, any dominant competence within the group may lead to highly biased results. It is therefore advisable to use a team that is as multidisciplinary as possible. Estimation of the exact time required to advance the research is another limitation which has made the research process difficult due to the wide range of variable definitions. Estimation is also very intuitive because experts are dealing with uncertain future development. To optimize this research, the authors propose a demand-based study complementary to this research. It is also suggested that other tourism markets may be considered for future research. As Iran does not yet have a long-term master plan, the results of this study can serve as a basis for the elaboration of scenarios for the future development of tourism in Iran by the tourism authorities.

**References**

Amer, M., Daim, T.U. and Jetter, A. (2013), "A review of scenario planning", *Futures*, Vol. 46, pp. 23–40.

Apodaca, P. (2001), "Calidad y evaluación de la educación superior: situación actual y prospectiva", *Revista de Investigación Educativa*, Vol. 19 No. 2, pp. 367–382.

Arcade, J., Godet, M., Meunier, F. and Roubelat, F. (1999), "Structural analysis with the MICMAC method and actor's strategy with MACTOR method", Futures Research Methodology, American Council for the United Nations University: The Millennium Project.

Asan, S. S., and Asan, U. (2007), "Qualitative cross-impact analysis with time consideration", *Technological Forecasting and Social Change*, Vol. 74 No. 5, pp. 627–644.

Asan, U., Erhan Bozdağ, C. and Polat, S. (2004), "A fuzzy approach to qualitative cross impact analysis", *Omega*, Vol. 32 No. 6, pp. 443–458.

ASEAN statistics. (2018), "Growth of the gross domestic product (GDP) in ASEAN, year-on-year (Annually; Quarterly) | ASEANStatsDataPortal", available at: https://data.aseanstats.org/indicator/AST.STC.TBL.6 (accessed 12 August 2020).

Avella, J. R. (2016), "Delphi Panels: Research Design, Procedures, Advantages, and Challenges", *International Journal of Doctoral Studies*, Vol. 11, pp. 305–321.

Baggio, R. (2008), "Symptoms of Complexity in a Tourism System", *Tourism Analysis*, Vol. 13 No. 1, pp. 1–20.

Bañuls, V.A. and Salmeron, J.L. (2007), "A Scenario-Based Assessment Model—SBAM", *Technological Forecasting and Social Change*, Vol. 74 No. 6, pp. 750–762.

Bañuls, V.A. and Turoff, M. (2011), "Scenario construction via Delphi and cross-impact analysis", *Technological Forecasting and Social Change*, Vol. 78 No. 9, pp. 1579–1602.

Belanche, D., Flavián, C. and Pérez-Rueda, A. (2017), "Understanding Interactive Online Advertising: Congruence and Product Involvement in Highly and Lowly Arousing, Skippable Video Ads", *Journal of Interactive Marketing*, Vol. 37, pp. 75–88.

Beni, M.C. (2008), *Análise estrutural do turismo*, Editora Senac São Paulo, São Paulo, SP.

Butler, R.W. (1999), "Sustainable tourism: A state-of-the-art review", *Tourism Geographies*, Vol. 1 No. 1, pp. 7–25.

Cabrera, E., Cobacho, R. and Lund, J.R. (Eds.). (2002), *Regional Water System Management: Water Conservation, Water Supply and System Integration*, A.A. Balkema, Lisse [Netherlands] ; Exton, PA.

CBI. (2016), "PART ONE: ECONOMIC DEVELOPMENTS OF IRAN IN 1396(2017/18)", *Central Bank of The Islamic Republic of Iran*, available at: http://www.cbi.ir/simplelist/19638.aspx (accessed 12 August 2020).

Cho, K.-T. and Kwon, C.-S. (2004), "Hierarchies with dependence of technological alternatives: A cross-impact hierarchy process", *European Journal of Operational Research*, Vol. 156 No. 2, pp. 420–432.

Devers, K.J. and Frankel, R.M. (2000), "Study design in qualitative research--2: Sampling and data collection strategies.", *Educ Health (Abingdon)*, Vol. 13 No. 2, pp. 263–271.

Dewangan, D.K., Agrawal, R. and Sharma, V. (2015), "Enablers for Competitiveness of Indian Manufacturing Sector: An ISM-Fuzzy MICMAC Analysis", *Procedia - Social and Behavioral Sciences*, Vol. 189, pp. 416–432.

Duperrin, J.-C. and Godet, M. (1973), *Hierarchization method for the elements of a system. An attempt to forecast a nuclear energy system in its societal context*, No. CEA-R--4541, France, p. 69 p.

Edgell, D.L., Allen, M.D., Smith, G. and Swanson, J. (Eds.). (2008), *Tourism Policy and Planning: Yesterday, Today and Tomorrow*, 1th ed., Butterworth-Heinemann, Amsterdam.

Ekanayake, E.M. and Long, A.E. (2012), "Tourism development and economic growth in developing countries", *The International Journal of Business and Finance Research*, Vol. 6 No. 1, pp. 61–63.

Formica, S. and Kothari, T.H. (2008), "Strategic Destination Planning: Analyzing the Future of Tourism", *Journal of Travel Research*, Vol. 46 No. 4, pp. 355–367.

Frey, B.B. (2018), *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation*, SAGE Publications, Inc., 2455 Teller Road, Thousand Oaks, California 91320, available at:https://doi.org/10.4135/9781506326139

Getz, D. (2008), "Event tourism: Definition, evolution, and research", *Tourism Management*, Vol. 29 No. 3, pp. 403–428.

Ghaderi, Z. and Henderson, J.C. (2012), "Sustainable rural tourism in Iran: A perspective from Hawraman Village", *Tourism Management Perspectives*, Vol. 2–3, pp. 47–54.

Glenn, J.C., Gordon, T.J. and Millennium Project. (2003), "Futures research methodology v2.0", American Council for the United Nations University, The Millennium Project, Washington, DC.

Godet, M. (1994), *From Anticipation to Action: A Handbook of Strategic Prospective*, UNESCO Pub, Paris, France.

Godet, M. (2000), "The Art of Scenarios and Strategic Planning", *Technological Forecasting and Social Change*, Vol. 65 No. 1, pp. 3–22.

Godet, M., Durance, P. and Gerber, A. (2008), *Strategic Foresight La Prospective*, Research working paper No. 10, LISPOR, Paris.

Gordon, T.J. (2009), "Cross-impact analysis", in Glenn, J.C. and Gordon, T.J. (Eds.), *Futures Research Methodology*, The Millennium Project.

Gunn, C.A. (1994), *Tourism Planning: Basics, Concepts, Cases*, 3rd ed., Taylor & Francis, Washington, DC.

Hall, C.M. and Page, S. (2010), "The contribution of Neil Leiper to tourism studies", *Current Issues in Tourism*, Vol. 13 No. 4, pp. 299–309.

Holpuch, A. (2018), "Donald Trump says US will no longer abide by Iran deal – as it happened | World news | The Guardian", available at: https://www.theguardian.com/world/live/2018/may/08/iran-nuclear-deal-donald-trump-latest-live-updates (accessed 12 August 2020).

Inayatullah, S. (2013), "Futures studies: theories and methods", in Jonquiere, F.G. (Ed.), *There's a Future: Visions for a Better World*, BBVA, Madrid, pp. 36–66.

Inskeep, E. (1991), *Tourism Planning: An Integrated and Sustainable Development Approach*, Van Nostrand Reinhold, New York.

IRCHT—Iranian Research Institute of Cultural Heritage & Tourism. (2019), "Priorities of Tourism Deputy of Ministry of Cultural Heritage and Tourism of Iran", available at: http://www.richt.ir/Portal/Home/Default.aspx?CategoryID=7c4230c3-5b33-48aa-9a28-650541ad72ca (accessed 12 August 2020).

Jackson, M.C. (2003), *Systems Thinking: Creative Holism for Managers*, John Wiley & Sons, Chichester, West Sussex ; Hoboken, N.J.

Jandaghi, G., Fathi, M.R., Maleki, M.H., Faraji, O. and Yüzbaşıoğlu, N. (2020), "Identification of tourism scenarios in Turkey based on futures study approach", *Almatourism—Journal of Tourism, Culture and Territorial Development*, Vol. 10 No. 20, pp. 47–68.

Johnson, G., Scholes, K. and Whittington, R. (2008), *Exploring Corporate Strategy: Text & Cases*, 8. ed., Financial Times Prentice Hall, Harlow.

Khodadadi, M. (2016), "Challenges and opportunities for tourism development in Iran: Perspectives of Iranian tourism suppliers", *Tourism Management Perspectives*, Vol. 19, pp. 90–92.

Khodadadi, M. (2018), "Donald Trump, US foreign policy and potential impacts on Iran's tourism industry: Post-nuclear deal", *Tourism Management Perspectives*, Vol. 26, pp. 28–30.

Kim, H.J., Chen, M.-H. and Jang, S. "Shawn". (2006), "Tourism expansion and economic development: The case of Taiwan", *Tourism Management*, Vol. 27 No. 5, pp. 925–933.

Kreiboch, R., Oertel, B. and Wolk, M. (2011), "Futures Studies and Future Oriented Technology Analysis Principles, Methodology, and Research Questions", presented at the First Berlin Symposium on Internet and Society.

Kreishan, F.M. (2010), "Tourism and economic growth: the case of Jordan", *European Journal of Social Sciences*, Vol. 15 No. 2, pp. 63–68.

Ladeiras, A., Mota, A. and Costa, J. (2010), "Strategic tourism planning in practice: the case of the Open Academy of Tourism", *Worldwide Hospitality and Tourism Themes*, Vol. 2 No. 4, pp. 357–363.

Lee, C.-C. and Chang, C.-P. (2008), "Tourism development and economic growth: A closer look at panels", *Tourism Management*, Vol. 29 No. 1, pp. 180–192.

Leiper, N. (1990), "Tourism systems: An interdisciplinary perspective", Palmerston North, New Zealand Massey University Department of Management Systems.

Mai, V.T. (2012), "Sustainable Tourism—Systems Thinking and System Dynamics Approaches: A Case Study in Cat Ba Biosphere Reserve of Vietnam.", Brisbane: The University of Queensland.

Mai, T. and Smith, C. (2015), "Addressing the threats to tourism sustainability using systems thinking: a case study of Cat Ba Island, Vietnam", *Journal of Sustainable Tourism*, Vol. 23 No. 10, pp. 1504–1528.

Mai, T. and Smith, C. (2018), "Scenario-based planning for tourism development using system dynamic modelling: A case study of Cat Ba Island, Vietnam", *Tourism Management*, Vol. 68, pp. 336–354.

Manzoor, F., Wei, L., Asif, M., Haq, M.Z. ul and Rehman, H. (2019), "The Contribution of Sustainable Tourism to Economic Growth and Employment in Pakistan", *International Journal of Environmental Research and Public Health*, Vol. 16 No. 19, p. 3785.

McLeod, M. (2020), "Understanding knowledge flows within a tourism destination network", *Journal of Hospitality and Tourism Insights*, Vol. ahead-of-print No. ahead-of-print.

Mill, R.C. and Morrison, A.M. (1998), *The Tourism System: An Introductory Text*, 3rd ed., Kendall/Hunt, Dubuque, Iowa.

Moe, A.Z. and Tan, C.C. (2016), "Using the business model concept as a broad-based SOR (stimulating-organism-response) consumer behavior model for tourism industry: the case of Bagan, Myanmar", *Journal of Mekong Societies,* Vol. 12 No. 2, pp. 21–44.

Nematpour, M. and Faraji, A. (2019), "Structural analysis of the tourism impacts in the form of future study in developing countries (case study: Iran)", *Journal of Tourism Futures*, Vol. 5 No. 3, pp. 259–282.

Nematpour, M. and Khodadadi, M. (2020), "Farm tourism as a driving force for socioeconomic development: a benefits viewpoint from Iran", *Current Issues in Tourism*, pp. 1–17.

Neuman, W.L. (2006), *Social Research Methods: Qualitative and Quantitative Approaches*, 6th ed., Pearson/AandB, Boston.

Patidar, L., Soni, V.K. and Soni, P.K. (2017), "Manufacturing wastes analysis in lean environment: an integrated ISM-fuzzy MICMAC approach", *International Journal of System Assurance Engineering and Management*, Vol. 8 No. S2, pp. 1783–1809.

Pazhuhan, M. and Shiri, N. (2020), "Regional tourism axes identification using GIS and TOPSIS model (Case study: Hormozgan Province, Iran)", *Journal of Tourism Analysis: Revista de Análisis Turístico*, Vol. ahead-of-print No. ahead-of-print, available at:https://doi.org/10.1108/JTA-06-2019-0024

Perdue, R.R., Immermans, H.J.P. and Uysal, M. (2004), *Consumer Psychology of Tourism, Hospitality and Leisure*, Vol. 3, CABI, Wallingford.

Pharino, C. and Pearce, P. (2020), "Paranormal Tourism Planning: Stakeholder Views on Development in South East Asia", *Tourism Planning & Development*, Vol. 17 No. 3, pp. 313–334.

Pigram, J.J. and Wahab, S. (2005), *Tourism, Development and Growth: The Challenge of Sustainability*, 1st ed., Routledge, London.

Postma, A. (2015), "Investigating scenario planning – a European tourism perspective", *Journal of Tourism Futures*, Vol. 1 No. 1, pp. 46–52.

Pratt, S. and Alizadeh, V. (2018), "The economic impact of the lifting of sanctions on tourism in Iran: a computable general equilibrium analysis", *Current Issues in Tourism*, Vol. 21 No. 11, pp. 1221–1238.

Roney, C.W. (2010), "Intersections of strategic planning and futures studies: methodological complementarities", *Journal of Futures Studies*, Vol. 15 No. 2, pp. 71–100.

Ruggieri, G. (2016), "Tourism Development: Concepts and Issues", *Tourism Planning & Development*, Vol. 13 No. 2, pp. 250–251.

Ruhanen, L. (2004), "Strategic planning for local tourism destinations: an analysis of tourism plans", *Tourism and Hospitality Planning & Development*, Vol. 1 No. 3, pp. 239–253.

Schlange, L.E. and Jüttner, U. (1997), "Helping managers to identify the key strategic issues", *Long Range Planning*, Vol. 30 No. 5, pp. 777–786.

Sedarati, P., Santos, S. and Pintassilgo, P. (2019), "System Dynamics in Tourism Planning and Development", *Tourism Planning & Development*, Vol. 16 No. 3, pp. 256–280.

Serdane, Z. (2020), "Slow Philosophy in Tourism Development in Latvia: The Supply Side Perspective", *Tourism Planning & Development*, Vol. 17 No. 3, pp. 295–312.

Seyfi, S. and Hall, C.M. (Eds.). (2019), *Tourism in Iran: Challenges, Development and Issues*, Routledge, Abingdon, Oxon ; New York, NY.

Sharpley, R. (2009), *Tourism Development and the Environment: Beyond Sustainability?*, Earthscan, London ; Sterling, VA.

Smith, S.L.J. (1988), "Defining tourism a supply-side view", *Annals of Tourism Research*, Vol. 15 No. 2, pp. 179–190.

Syam, A., Reeves, D. and Khan, A. (2011), "The effects of cultural dimension on people's perception about security on public transport", presented at the URBAN TRANSPORT 2011, Pisa, Italy, pp. 575–586.

UNWTO. (2019), *International Tourism Highlights 2019*, UNWTO, Madrid.

Villacorta, P.J., Masegosa, A.D., Castellanos, D. and Lamata, M.T. (2014), "A new fuzzy linguistic approach to qualitative Cross Impact Analysis", *Applied Soft Computing*, Vol. 24, pp. 19–30.

WTTC. (2019), "Economic Impact 2019", *World Travel and Tourism Council*, available at: www.wttc.org/-/media/files/reports/economic-impact-research/regions-2019/world2019.pdf.

Zhang, J. and Jensen, C. (2007), "Comparative advantage: explaining tourism flows", *Annals of Tourism Research*, Vol. 34 No. 1, pp. 223–243.